CLAIMS

1. A method of estimating a parameter of a local maxima or minima of a function comprising:

performing interpolation on samples of the function at or near a local maxima or minima, resulting in an interpolated local maxima or minima;

deriving an interpolation offset comprising a deviation between locations of the interpolated local maxima or minima and a sampled local maxima or minima; and

deriving an estimate of the parameter from the interpolation offset.

2. The method of claim 1 wherein the function is a correlation function.

3. The method of claim 2 wherein the correlation function is derived from a received signal.

4. The method of claim 2 wherein the second deriving step comprises deriving a parameter bias from the interpolation offset using a pre-existing relationship that is present between these two variables and then deriving an estimate of the parameter from the parameter bias.

5. The method of claim 4 wherein the interpolation offset comprises a deviation between locations of interpolated and sampled peaks along a code phase dimension.

6. The method of claim 5 wherein the parameter bias is a code phase bias.

7. The method of claim 6 wherein the parameter which is estimated is location of a peak along the code phase dimension, and an estimate of this parameter is derived from the code phase bias.

8. The method of claim 4 wherein the interpolation offset comprises a deviation between locations of interpolated and sampled peaks along a Doppler frequency dimension.

9. The method of claim 8 wherein the parameter bias is a Doppler frequency bias.

10. The method of claim 9 wherein the parameter which is estimated is location of a peak of the function along the Doppler frequency dimension, and an estimate of this parameter is derived from the Doppler frequency bias.

11. The method of claim 5 wherein the parameter bias is a peak energy bias.

12. The method of claim 11 wherein the parameter which is estimated is peak energy, and an estimate of this parameter is derived from the peak energy bias.

13. The method of claim 9 wherein the parameter bias is a peak energy bias.

14. The method of claim 13 wherein the parameter which is estimated is peak energy, and an estimate of this parameter is derived from the peak energy bias.

15. The method of claim 4 wherein the pre-existing relationship between the interpolation offset and the parameter bias is embodied as a lookup table.

16. The method of claim 15 wherein the second deriving step comprises directly deriving an estimate of the parameter from the interpolation offset through an access to the lookup table.

17. A memory tangibly embodying a lookup table, the lookup table implementing a pre-existing relationship between an interpolation offset and a

parameter bias or parameter estimate, and the interpolation offset comprising a deviation between locations of interpolated and sampled local maxima or minima of a function.

18. The memory of claim 17 wherein the function is a correlation function.

19. The memory of claim 18 wherein the correlation function is derived from a received signal.

20. The memory of claim 18 wherein an access to the lookup table yields a parameter bias.

21. The memory of claim 18 wherein an access to the lookup table yields a parameter estimate.

22. The memory of claim 20 wherein the interpolation offset comprises a deviation between locations of interpolated and sampled peaks along a code phase dimension.

23. The memory of claim 22 wherein the parameter bias is a code phase bias.

24. The memory of claim 23 wherein the parameter estimate is an estimate of the location of a peak along a code phase dimension.

25. The memory of claim 24 wherein the parameter estimate comprises a sum of the interpolation offset and the code phase bias.

26. The memory of claim 22 wherein the parameter bias is a peak energy bias.

27. The memory of claim 26 wherein the parameter estimate is an estimate of peak energy.

28. The memory of claim 27 wherein the parameter estimate comprises a sum of interpolated peak energy and a peak energy bias.

29. The memory of claim 27 wherein the parameter estimate comprises a sum of sampled peak energy and a peak energy bias.

30. The memory of claim 20 wherein the interpolation offset comprises a deviation between locations of interpolated and sampled peaks along a Doppler frequency dimension.

31. The memory of claim 30 wherein the parameter bias is a Doppler frequency bias.

32. The memory of claim 31 wherein the parameter estimate is an estimate of the location of a peak along a Doppler frequency dimension.

33. The memory of claim 32 wherein the parameter estimate comprises a sum of the interpolation offset and a Doppler frequency bias.

34. The memory of claim 30 wherein the parameter bias is a peak energy bias.

35. The memory of claim 34 wherein the parameter estimate is an estimate of peak energy.

36. The memory of claim 35 wherein the estimate comprises a sum of interpolated peak energy and a peak energy bias.

37. The memory of claim 35 wherein the estimate comprises a sum of sampled peak energy and a peak energy bias.

38. A system comprising a processor and the memory of claim 17, wherein the processor is configured to access the lookup table tangibly embodied by the memory.

39. A memory tangibly embodying a sequence of software instructions for performing a method of estimating a parameter of a local maxima or minima of a function comprising:

performing interpolation on samples of the function at or near a local maxima or minima, resulting in an interpolated local maxima or minima;

deriving an interpolation offset comprising a deviation between locations of the interpolated local maxima or minima and a sampled local maxima or minima; and

deriving an estimate of the parameter from the interpolation offset.

40. The memory of claim 39 wherein the function is a correlation function.

41. The memory of claim 40 wherein the correlation function is derived from a received signal.

42. The memory of claim 40 wherein the second deriving step comprises deriving a parameter bias from the interpolation offset using a pre-existing relationship which is present between these two variables and deriving an estimate of the parameter from the parameter bias.

43. The memory of claim 42 wherein the interpolation offset comprises a deviation between locations of interpolated and sampled peaks along a code phase dimension.

44. The memory of claim 43 wherein the parameter bias is a code phase bias.

45. The memory of claim 44 wherein the parameter is location of a peak along the code phase dimension, and an estimate of this parameter is derived from the code phase bias.

46. The memory of claim 42 wherein the interpolation offset comprises a deviation between locations of interpolated and sampled peaks along a Doppler frequency dimension.

47. The memory of claim 46 wherein the parameter bias is a Doppler frequency bias.

48. The memory of claim 47 wherein the parameter which is estimated is location of a peak of the function along the Doppler frequency dimension, and an estimate of this parameter is derived from the Doppler frequency bias.

49. The memory of claim 46 wherein the parameter bias is a peak energy bias.

50. The memory of claim 49 wherein the parameter which is estimated is peak energy, and an estimate of this parameter is derived from the peak energy bias.

51. The memory of claim 46 wherein the parameter bias is a peak energy bias.

52. The memory of claim 51 wherein the parameter which is estimated is peak energy, and an estimate of this parameter is derived from the peak energy bias.

53. The memory of claim 42 wherein the pre-existing relationship between the interpolation offset and the parameter bias is embodied as a lookup table.

54. A system comprising a processor and the memory of claim 39, wherein the processor in configured to access and execute the sequence of software instructions tangibly embodied by the memory.

55. A method of estimating a parameter of a local maxima or minima of a function comprising:

a step for performing interpolation on samples of the function at or near a local maxima or minima, resulting in an interpolated local maxima or minina;

a step for deriving an interpolation offset comprising a deviation between locations of the interpolated local maxima or minima and a sampled local maxima or minima; and

a step for deriving an estimate of the parameter from the interpolation offset.